

Scientific Inquiry

2-1 The student will demonstrate an understanding of scientific inquiry, including the processes, skills, and mathematical thinking necessary to conduct a simple scientific investigation.

2-1.1 Carry out simple scientific investigations to answer questions about familiar objects and events.

Taxonomy Level: 3.1-A Apply Factual Knowledge

Previous/Future knowledge: In 1st grade (1-1.3), students carried out simple scientific investigations when given clear directions. In 3rd grade (3-1.3), students will generate questions such as “what if?” or “how?” about objects, organisms, and events in the environment and use those questions to conduct a simple scientific investigation. In 5th grade (5-1.3), students will plan and conduct controlled scientific investigations, manipulating one variable at a time.

It is essential for students to answer questions about familiar objects and events through performing simple scientific investigations. Clear directions for a scientific investigation may include instructions to:

- Ask a question to be investigated
- Make a prediction (possible answer to the question)
- Decide what materials are needed for the investigation
- List steps to follow to carry out the investigation
- Record observations
- Communicate the results (for example through verbal discussion, pictures, diagrams, note-taking, etc.)

To make a *prediction*:

- Make observations and think about what is known about the object or event.
- Tell what will happen next.

NOTE TO TEACHER: The directions should be presented visually or orally in a manner that is suited to the students’ levels of development.

It is not essential for students to devise the steps to carry out a scientific investigation or know the terms manipulated and responding variable.

Assessment Guidelines:

The objective of this indicator is to *carry out* simple scientific investigations to answer questions about familiar objects and events; therefore, the primary focus of assessment should be to follow the steps for completing a simple investigation when provided with the steps. However, appropriate assessments should also require students to *recall* that a scientific investigation begins with a question.